



# **Water Resources Advisory Commission June 7, 2012**

## **Caloosahatchee Projects: Local Coordination Update**

*Phil Flood*

*South Florida Water Management District*

# Water Conservation

## AWS

- \$300,000 City of LaBelle 1.5 MGD R/O Plant

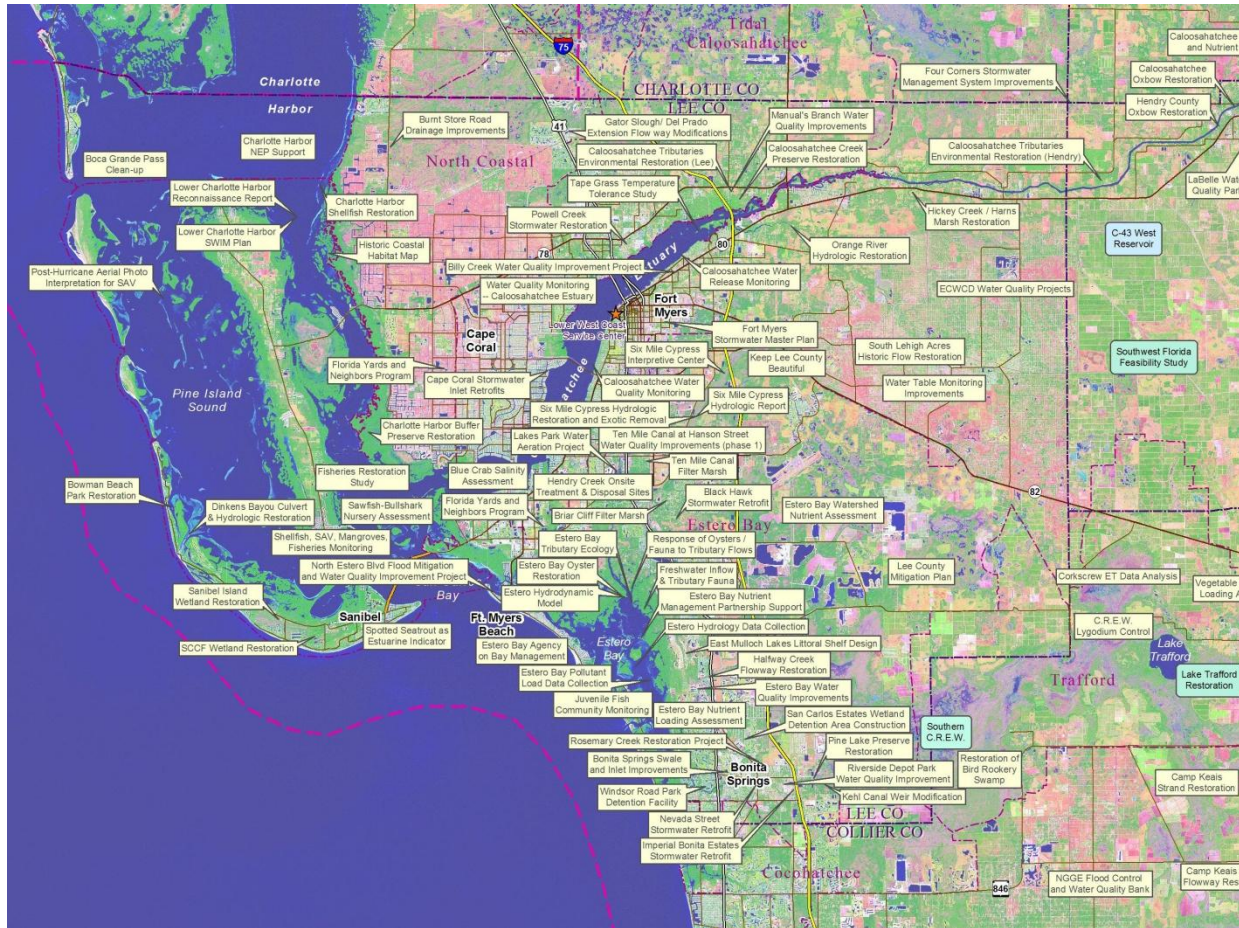
## Water SIP

- \$14,000 Cape Coral Automatic Hydrant Flushing
  - 3.5 million gallons/year savings
- \$38,250 Port LaBelle Utility Leak Detection
  - 2.0 million gallons/year savings
- \$38,250 LaBelle Mobile Meter Reading
  - 1.57 million gallons/year savings

# Technical Assistance to Local Governments

- Development of SWIM Plans
- Stormwater Master Plans
- BMAP Coordination
- Water Quality Improvement Projects

# Completed Local Projects







# **Water Resources Advisory Commission June 7, 2012**

## **Caloosahatchee Projects Update**

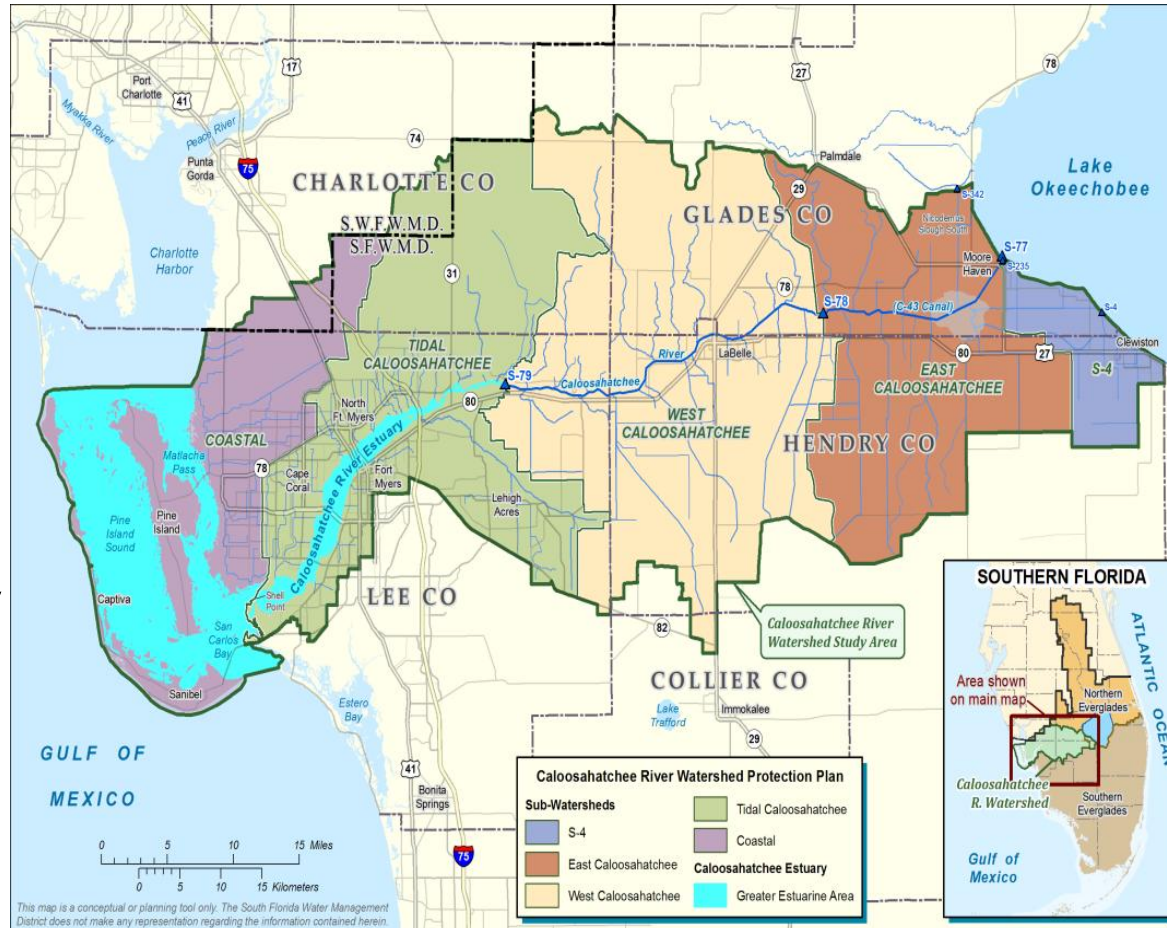
*Temperince Morgan, State Policy Chief  
South Florida Water Management District*

# Presentation Outline

- Caloosahatchee River Watershed Protection Plan
- Caloosahatchee River (C-43) West Basin Storage Reservoir Water Reservation
- Lake Hicpochee Hydrologic Enhancement
- Caloosahatchee Water Quality Treatment and Testing Project
- Local Projects
  - Spanish Creek/Four Corners
  - Mirror Lakes/Halfway Pond Restoration
  - Powell Creek

# Caloosahatchee River Watershed Protection Plan

- Required under Northern Everglades and Estuaries Protection Program (Section 373,4595 F.S.)
- Aims to improve the quality of water discharged from the watershed to the estuary and minimize undesirable flows
- Update every 3 years
- Includes 3 major components



# Plan Components and Goals

## Source Control Program



## Construction Project & Dispersed Water Management



## Research and Water Quality Monitoring Program

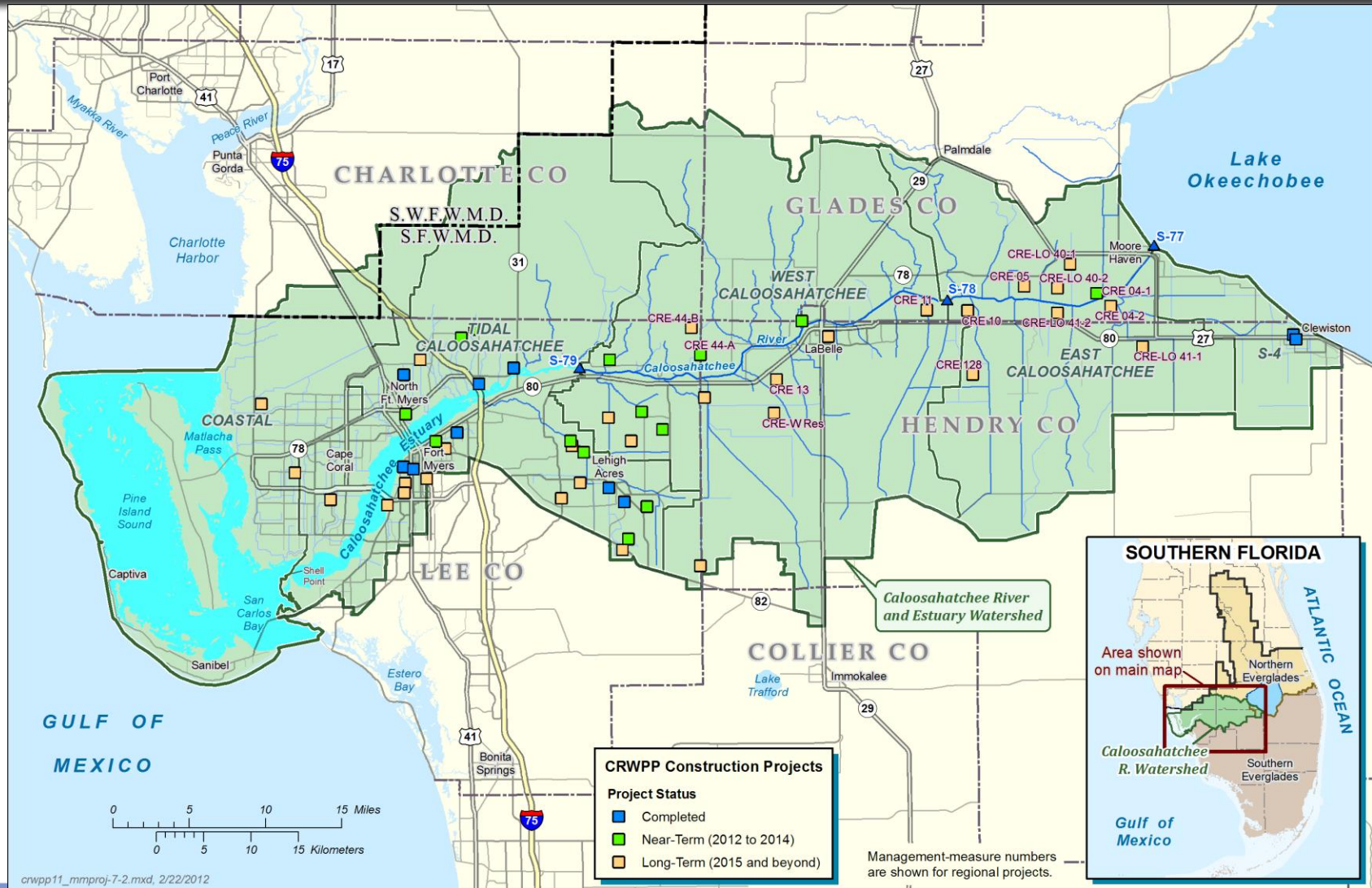


## GOALS

1. Meet the Estuary Total Nitrogen (TN) TMDL
2. Establish a Desirable Salinity Balance in the Estuary



# Caloosahatchee River Watershed Protection Plan



# Caloosahatchee River Watershed Protection Plan Status and Schedule

- 2012 update completed and submitted to the legislature in January 2012
- Full Plan meets the TMDL target of 23% TN load reduction
  - However, uncertainty exists in treatment of dissolved organic nitrogen to meet the TMDL
- Implemented in multiple phases
- Near-term Phase (2012-2014) includes:
  - Source Control
  - Lake Hicpochee Hydrologic Enhancement
  - Caloosahatchee Water Quality Treatment and Testing Project
  - Local Projects (e.g. Mirror Lakes; Spanish Creek/Four Corners)
  - Dispersed Water Management
  - Tidal and Estuary Monitoring/Tape Grass Plantings

# Caloosahatchee C-43 Reservoir Water Reservation Status Update

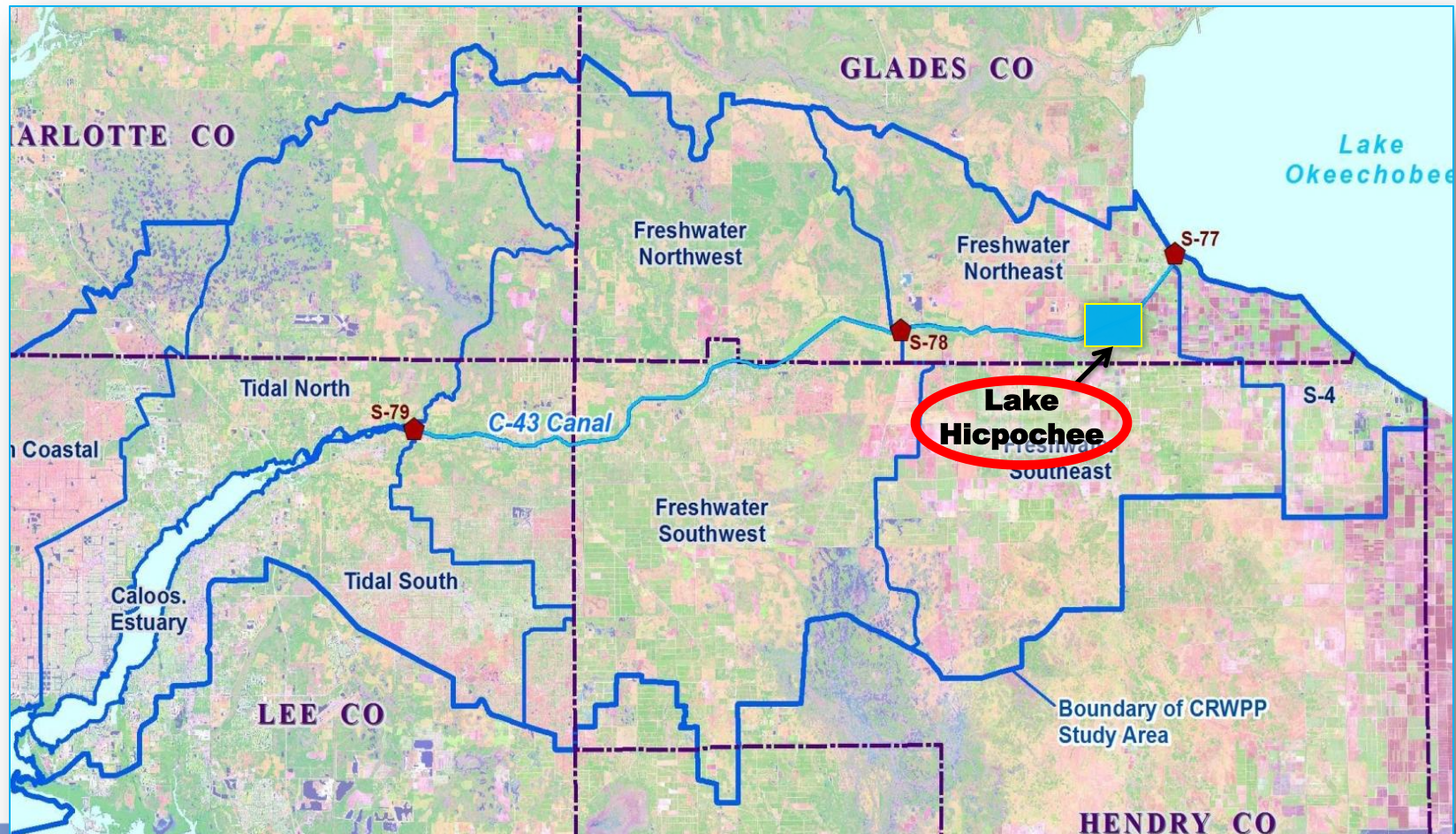


- Scope is to protect all water captured by reservoir and released for protection of fish and wildlife in the Caloosahatchee Estuary
- Two public workshops held and draft rule language distributed for public comment
- Staff preparing supporting document containing technical and scientific information that is basis for rule
- Next workshop will be scheduled after supporting document completed and public has had an opportunity to review and prepare comments on document



# Lake Hicpochee Hydrologic Enhancement

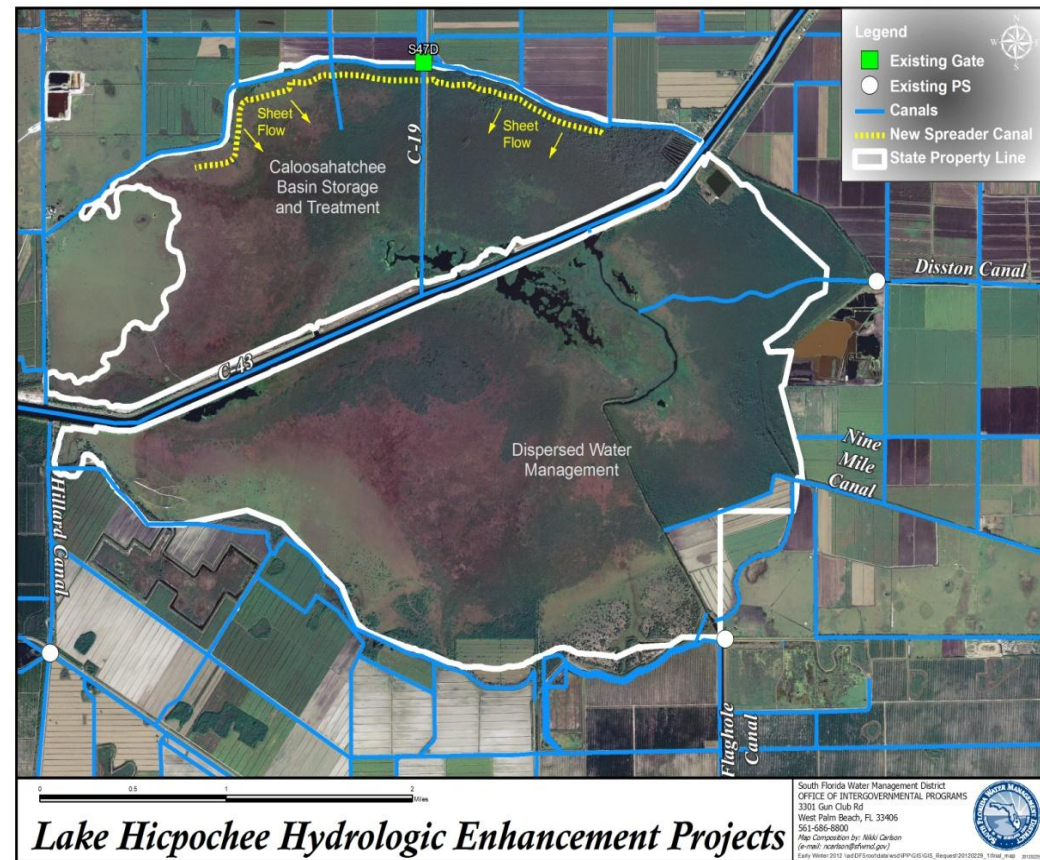
- **Goal:** Hydrologic enhancement of Lake Hicpochee through redistribution of flows with incidental storage and treatment benefits





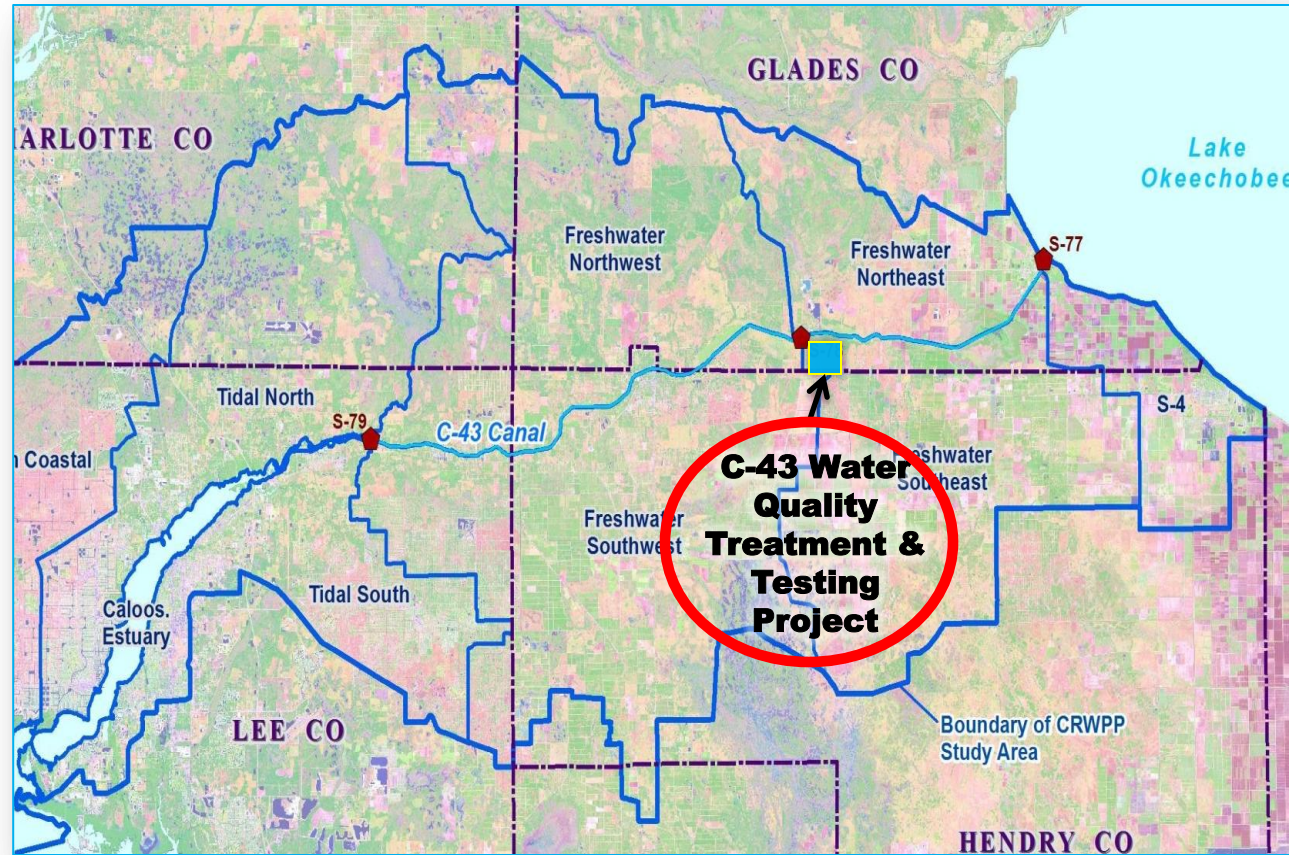
# Lake Hicpochee Hydrologic Enhancement Status and Schedule

- Review of prior plans and reports has taken place
- Phased approach is being considered with emphasis on gravity flows only
- SOW for survey/geotech was negotiated; anticipated completion fall/winter 2012
- Schedule
  - Preliminary Design Work FY2013
  - Final Design FY2013/2014
  - Construction FY2014-FY2016



# Caloosahatchee Water Quality Treatment and Testing Project

- Design, construction, and operation of experimental treatment facilities for reducing TN loading to the Caloosahatchee River to improve water quality in the downstream estuarine ecosystems

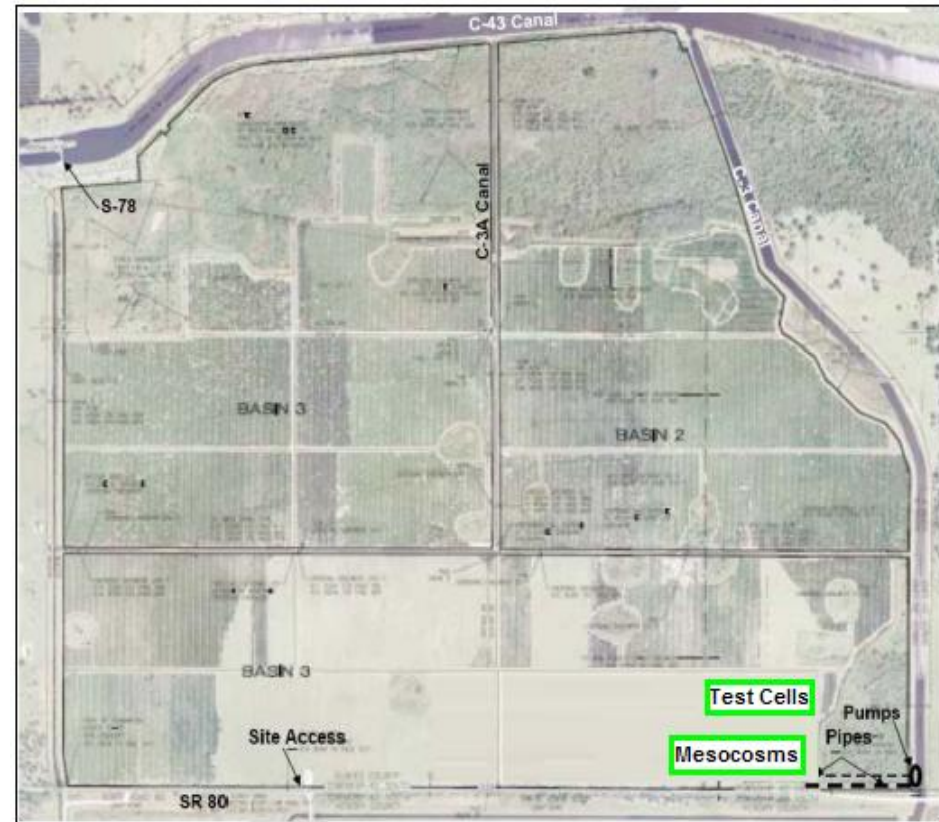




# Caloosahatchee Water Quality Treatment and Testing Project

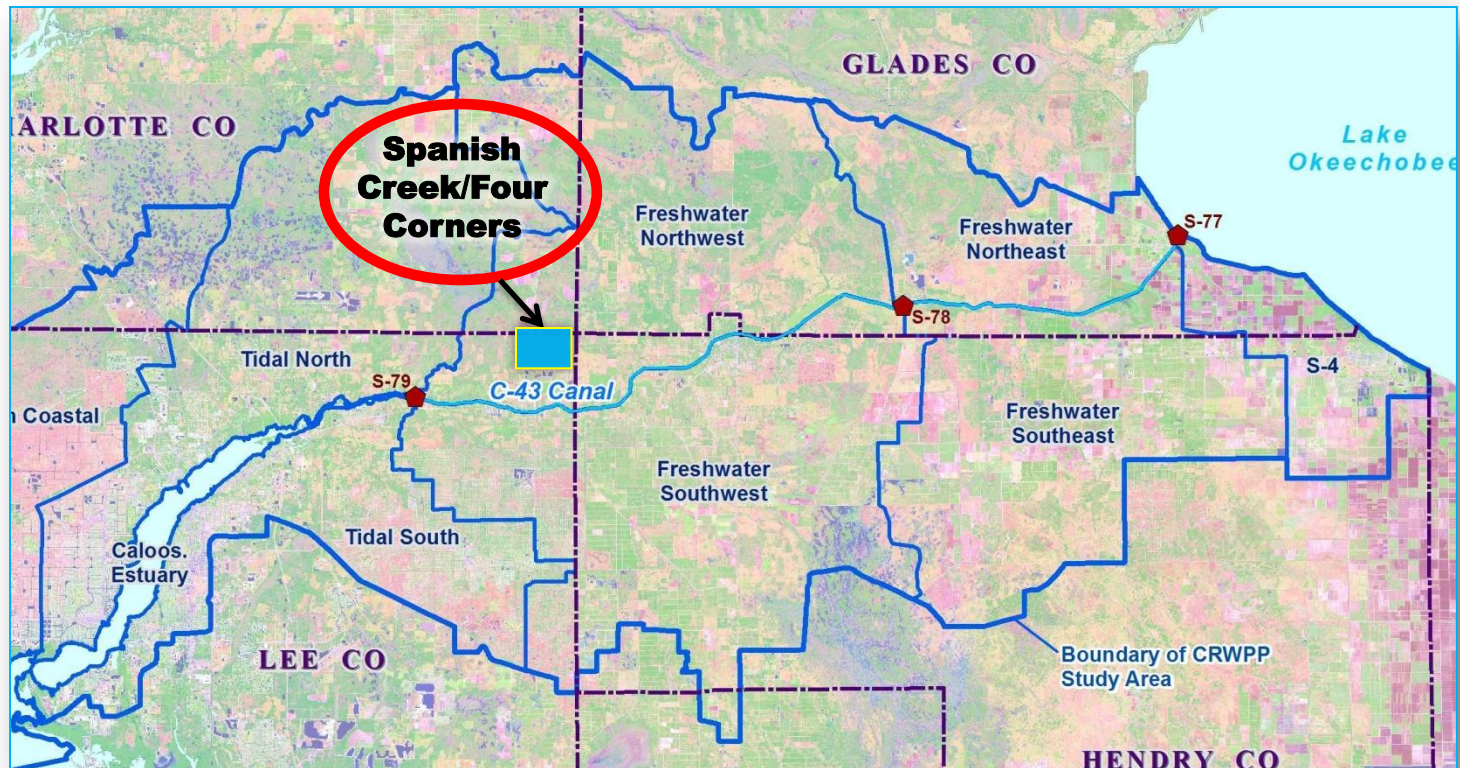
## Status and Schedule

- Contract for the conceptual design of the testing facility (mesocosms and test cells) awarded to Wetland Solutions Inc. on 12/12/11
- Final Evaluation of Options for Reducing Nitrogen was completed in May
- Conceptual design of the proposed test facilities and operational testing plan due 9/25/12
- Schedule
  - Design FY2013
  - Construction FY2014
  - Operation and Testing FY2014-2017



# Spanish Creek/Four Corners

Develop conveyance, attenuation, and treatment of stormwater runoff using wetland flow-ways in the watershed





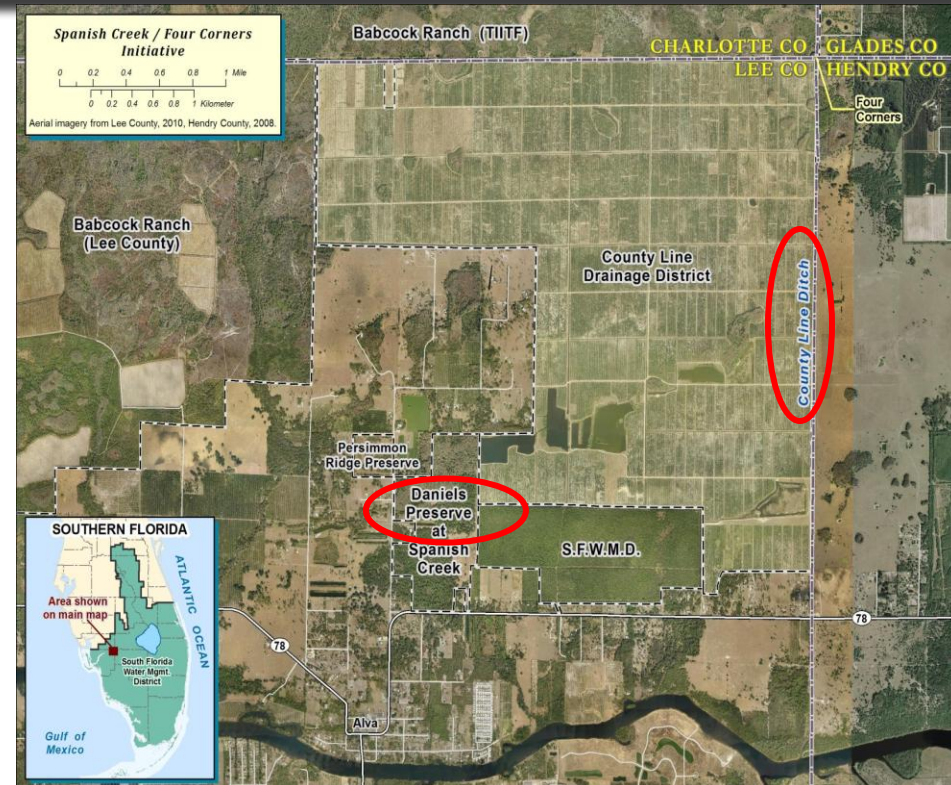
# Spanish Creek/Four Corners

## Hendry County

- Construct a flow-way to add water quality treatment and storage to County Line Ditch
- Design and permitting services contract started in May 2012; Complete design and permitting by July 2013

## Lee County

- Restore former farm fields at Bob Janes Preserve and re-hydrate Daniels Preserve to provide water storage and treatment
- Developing SOW for Bob Janes Preserve; Environmental assessment and design complete by May 2013; Negotiating acquisition for Spanish Creek Preserve restoration



# Mirror Lakes/Halfway Pond Restoration

Multi-phased project by ECWCD in partnership with SFWMD to re-hydrate former lake bottom and wetlands, reduce nutrient loading to the Caloosahatchee, reduce peak discharges to the Orange River and deliver water to Green Meadows Wellfield





# Mirror Lakes/Halfway Pond Restoration

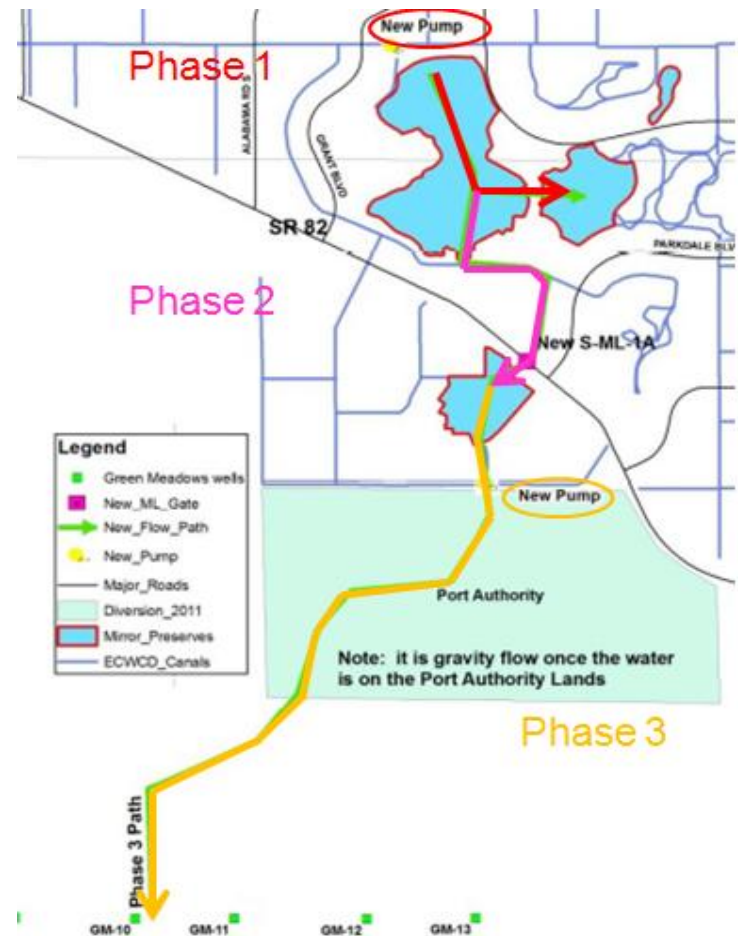
## Phase 1: Rehydration of Mirror Lakes (1,000 acre feet of storage)

- Construction completion in FY12 with SFWMD support

## Phase 2: Rehydration of preserve areas south of SR82 (500 acre feet of storage)

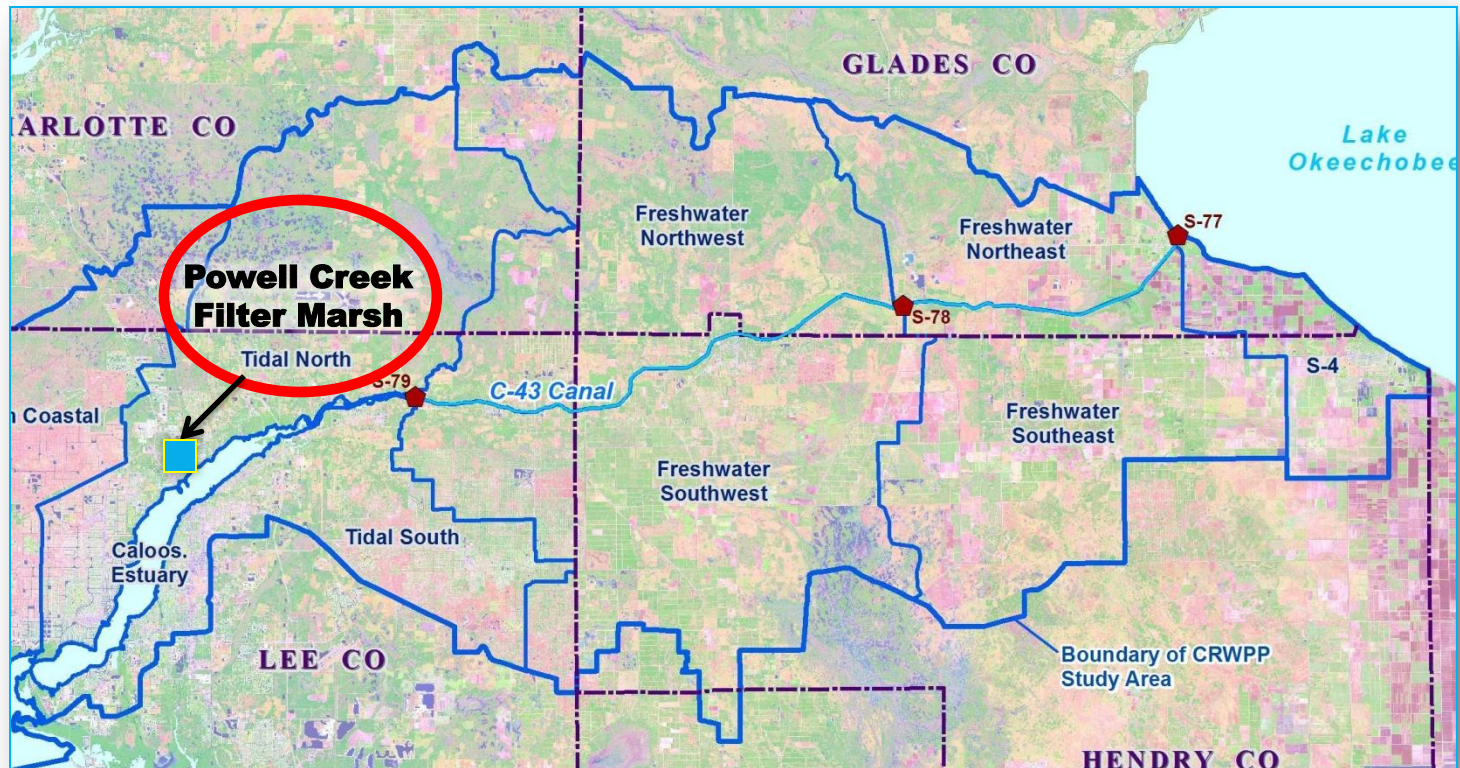
## Phase 3: Lee County's Port Authority Mitigation Land and Green Meadows Wellfield (2,000 acre feet of storage)

- Phase 2 and 3 Design Analysis Report by 2013 w/ SFWMD Support



# Powell Creek

Construct an 18-acre filter marsh to improve water quality within Powell Creek and the tidal Caloosahatchee





# Powell Creek

- Benefits:
  - Water quality improvements
  - Increased water storage
  - Improved wildlife habitat
- Currently under construction; scheduled completion is in August 2012
- Project will be designed, constructed and operated by Lee County w/ SFWMD support
- Will include nature trail for hiking, photography and nature observation



# Questions?





## **Water Resources Advisory Commission Meeting June 7, 2012**

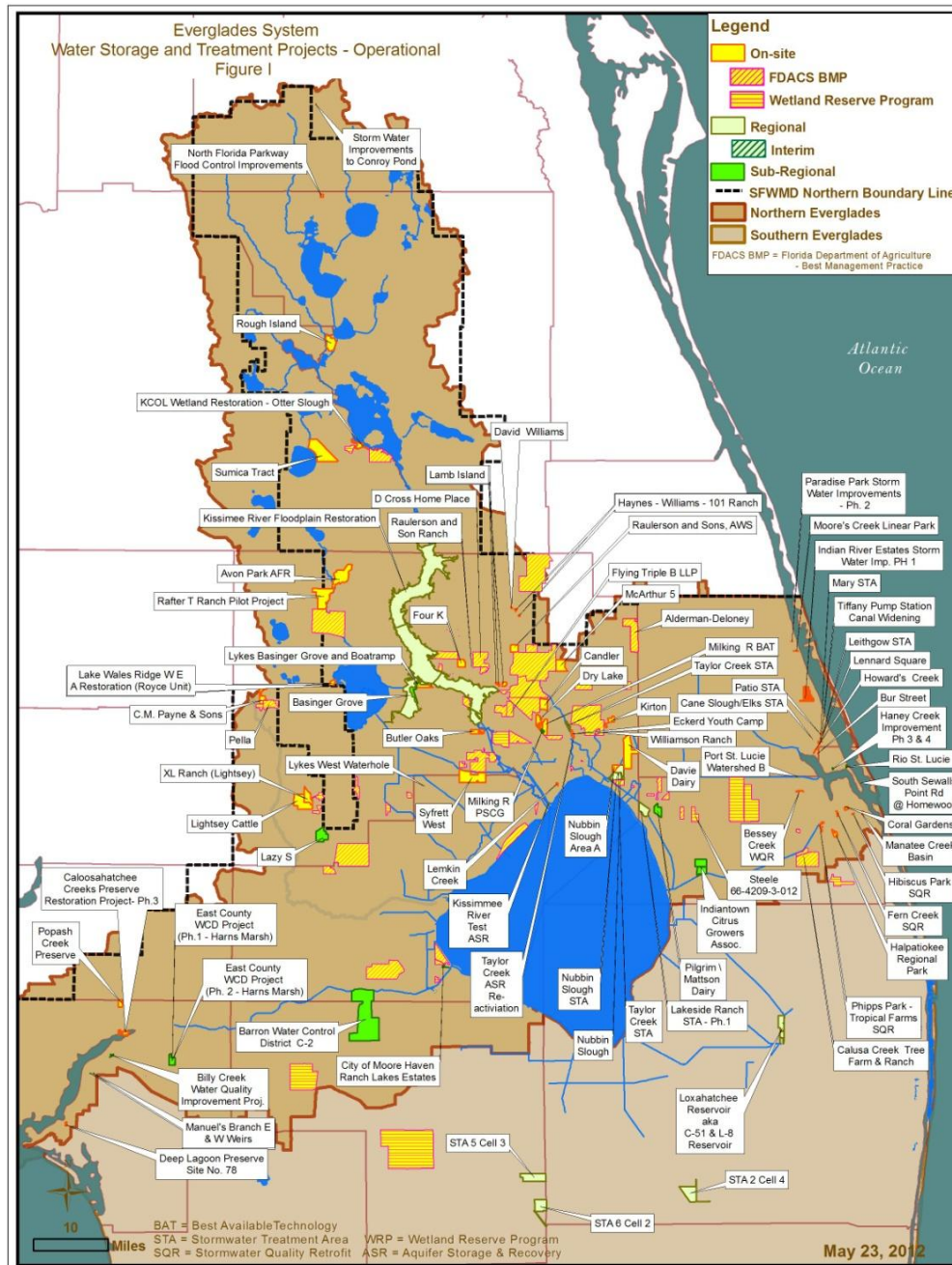
**Dispersed Water Management**

**Benita Whalen, P.E., Director, Ag Water Programs**

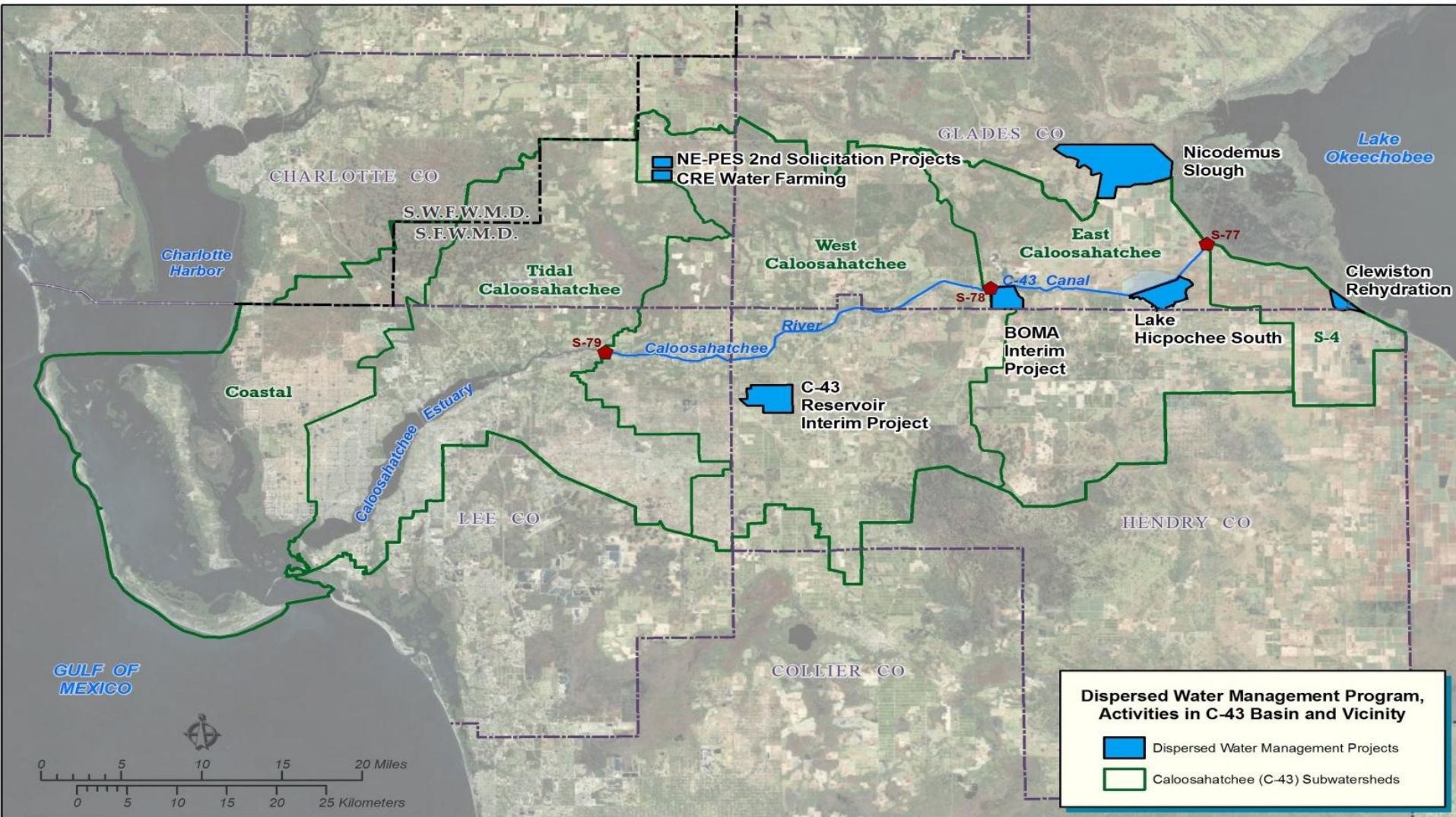
# Dispersed Water Management Program Description and Goals

- Shallow water distribution across parcel landscape using simple structures.
  - Supplements water storage goals for Everglades Restoration
  - Increase water retention
  - Reduce nutrient loads
  - Provides shallow water recharge
  - Improves wetland systems and habitat
  - Reduces harmful effects on Lake Okeechobee and estuaries.
  - Partnerships benefit local economies



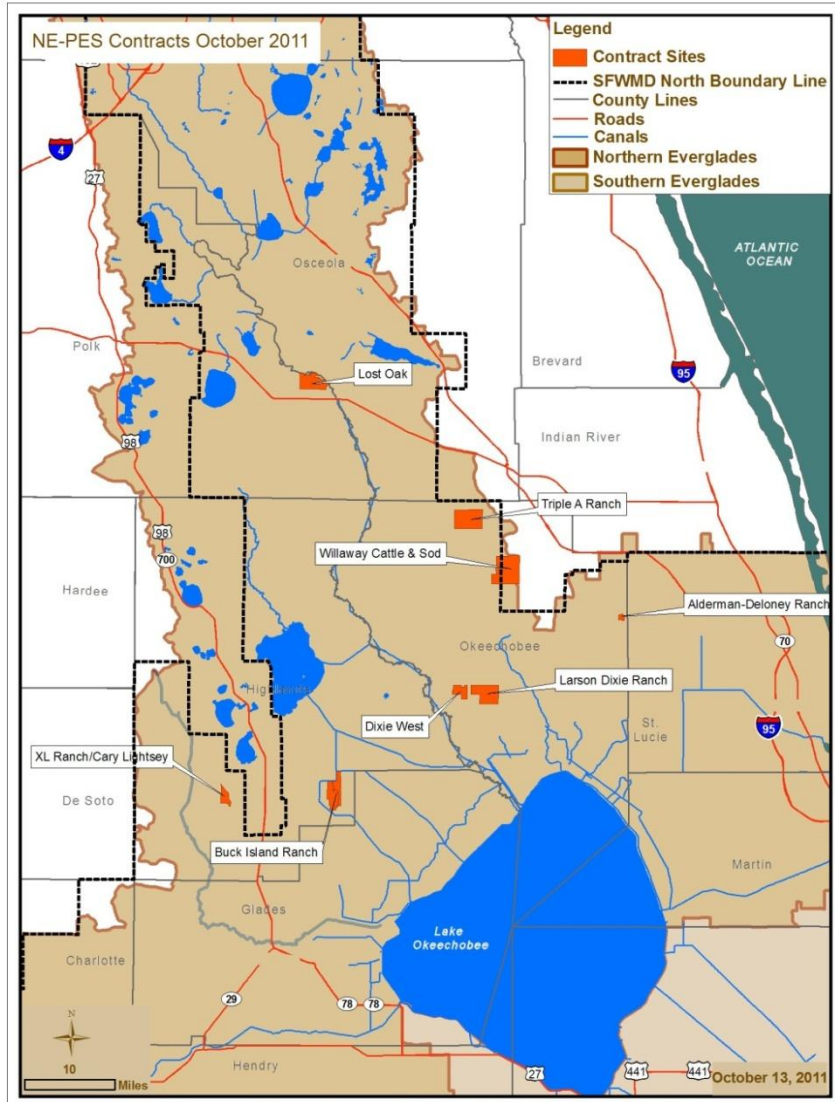


# Dispersed Water Management C-43 Basin Projects





# Northern Everglades – Payment for Environmental Services (NE – PES)



- October GB approval of 8 Water Retention Projects
  - Three operational
  - Two substantially complete
  - Two under construction
  - One in permitting discussions



## Future Projects

- NE-PES Second Solicitation
  - June 2012 Release
  - \$15 Million over ten-year contract period
- Potential cost-share projects
  - Lee County Six Mile Cypress Headwaters Restoration
  - Barron Water Control District Weir
- Caloosahatchee Water Farming
  - Assessment with Gulf Citrus Association
  - Agreement Executed (\$120,000)



***QUESTIONS?***